

## **AMENDMENTS TO THE CLAIMS:**

### **Complete Listing of Claims**

1           Claim 1. (currently amended)     A method of logging in a device to a  
2 network of devices, each device having an identification number unique to that  
3 device stored therein, the identification number having a number of bits, each  
4 having a bit position, and the network having an a controller, comprising the  
5 steps of:  
  
6           ~~storing, in each device, an identification number unique to that device, the~~  
7 ~~identification number having a number of bits, each having a bit position;~~  
  
8           delivering a control code from the controller to each device on the network  
9 indicating that a login process is to begin;  
  
10          broadcasting from the controller a pattern of requests to all devices, each  
11 request representing a request to each device to acknowledge whether a given  
12 bit position of its identification number has a given binary value;  
  
13          ~~sending~~ receiving acknowledgements from the device logging in devices  
14 to the controller; and  
  
15          traversing a binary tree by the controller in response to the  
16 acknowledgements, thereby determining the identification number of the device  
17 logging in.

1           Claim 2. (original)   The method of Claim 1, wherein the network is a  
2 wireless network and the broadcasting and receiving steps are performed with  
3 wireless signals.

1           Claim 3. (original)   The method of Claim 1, wherein the network is a  
2 network of calculators.

1           Claim 4. (original)   The method of Claim 1, wherein the network is a local  
2   area network of computers.

1           Claim 5. (original)   The method of Claim 1, wherein the method is  
2   performed by a hardware logic device.

1           Claim 6. (original)   The method of Claim 1, wherein the method is  
2   performed by a processor-based device.

1           Claim 7. (currently amended)    The method of Claim 1, wherein a the  
2   first request in the pattern of requests is a request to acknowledge a one rather  
3   than a zero, and wherein a the second request in the pattern of requests is a  
4   request to acknowledge a zero rather than a one.

1           Claim 8. (original)   The method of Claim 1, wherein the  
2   acknowledgement is any signal above a noise threshold.

1           Claim 9. (original)   The method of Claim 1, further comprising the step of  
2   maintaining a tracking register associated with each device to track  
3   acknowledgements.

1           Claim 10. (currently amended)   The method of Claim 1, wherein a  
2   plurality of devices are logging in, and wherein each device logging in ceases to  
3   send acknowledgements for subsequent bit positions after it cannot  
4   acknowledge ~~acknowledgement~~ with respect to any bit position.

1           Claim 11. (original)   The method of Claim 1, further comprising the step of  
2   ending the login process if two successive requests for values of the same bit  
3   position are not acknowledged.

1           Claim 12. (currently amended)   A method of logging in a device to a  
2   network of devices, each device having an identification number unique to that  
3   device stored therein, the identification number having a number of bits, each  
4   having a bit position, and the network having an a controller, comprising the  
5   steps of:

6           ~~storing, in each device, an identification number unique to that device, the~~  
7   ~~identification number having a number of bits, each having a bit position;~~

8           delivering a control code from the controller to each device on the network  
9   indicating that a login process is to begin;

10          broadcasting a first request from the controller to all devices, the first  
11   request representing a request to each device to acknowledge whether the first  
12   bit position of its identification number has a zero;

13          sending acknowledgements to the controller by the devices and receiving  
14   the acknowledgements from the devices in accordance with the following sub-  
15   steps steps:

16          if an acknowledgement to the first request is received by the controller,  
17   repeating the broadcasting step for the next bit position of the identification  
18   number; but

19          if no acknowledgement to the first request is received by the controller,  
20   broadcasting a second request from the controller to all devices, the second  
21   request representing a request to each device to acknowledge whether the first  
22   bit of its identification number is a one; and if an acknowledgement to the second  
23   request is received, repeating the first broadcasting step for the next bit position  
24   of the identification number; and if no acknowledgement to the second request is  
25   received, ending the login process;

26          repeating the sending broadcasting and receiving sub-steps steps for  
27   each bit position of the identification number; and

28          traversing a binary tree by the controller in response to the  
29   acknowledgements, thereby determining the identification number of the device.

1           Claim 13. (currently amended)   A network controller for logging ~~login~~ in  
2   a device to a network of devices, comprising:  
3           processing circuitry for performing the following tasks:  
4           delivering a control code to each device on the network indicating  
5 ~~indicated~~ that a login process is to begin;  
6           broadcasting a pattern of requests to all devices, each request  
7   representing a request to each device to acknowledge whether a given ~~first~~ bit  
8   position of its identification number has a given binary value;  
9           receiving acknowledgements from the devices; and  
10          traversing a binary tree in response to the acknowledgements, thereby  
11   determining the identification number of the device.

1           Claim 14. (original) The controller of Claim 13, wherein the processing  
2   circuitry is a programmable logic device.

1           Claim 15. (original) The controller of Claim 13, wherein the processing  
2   circuitry is a processor and program memory.

1           Claim 16. (original) The controller of Claim 13, wherein the network is a  
2   local area network of computers, and the controller is part of a network server.

1           Claim 17. (original) The controller of Claim 13, wherein the network is a  
2   network of calculators, and the controller is a hardware communications  
3   controller.